



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/734,616

12/12/2003

Raymond C. Kurzweil

14202-004001

1709

26161 7590 09/30/2008

FISH & RICHARDSON PC  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT

PAPER NUMBER

3661

NOTIFICATION DATE

DELIVERY MODE

09/30/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/734,616	<b>Applicant(s)</b> KURZWEIL, RAYMOND C.	
	<b>Examiner</b> CHRISTINE M. BEHNCKE	<b>Art Unit</b> 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is in response to the Amendment and Remarks filed 13 August 2008, in which claims 1-21 were presented for examination.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 9, 13 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 13 August 2008 have been fully considered but they are not persuasive. Regarding claims 6, 7 and 17, Applicant contends the combination of Yee and Abbasi comprise of impermissible hindsight. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Regarding Applicant's contention the combination does not suggest the claim language of claims 6, 7 and 17: the Examiner refers Applicant to the rejection below.

#### ***Claim Objections***

Claim 8 is objected to because of the following informalities: The claim recited "sending the audio signals to the set of goggles" however logically the video signals

Art Unit: 3661

would go to the goggles in view of Applicant's specification and claim 5. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons, US 6,741,911, in view of McIntosh, US 5,103,404.

(Claims 1 and 13) Simmons describes a virtual reality encounter system and method comprising: A humanoid robot having tactile sensors positioned along the exterior of the robot (column 8, lines 39-50), the sensors sending tactile signals to a communications network (column 7, lines 29-32); and a body suit having tactile actuators (column 6, lines 33-51, column 8, lines 39-50), the actuators receiving the tactile signals from the corresponding tactile sensors on the robot from the communication network (column 7, lines 29-32), wherein the tactile sensors and the corresponding tactile actuators are calibrated in connection with variable sensitivities associated with different regions of the human (column 8, line 62- column 9, line 4, column 13, lines 3-28). Further McIntosh teaches that it was well known in the remote robotic control art to calibrate sensors to different levels of sensitivities to overcome the problem and allow, according to McIntosh, individuals to vary the sensitivities of tactile feedback to optimize their own degree of sensitivity and control over the manipulator (column 1, lines 41-50, column 9, lines 12-52).

(Claims 2 and 14) Simmons further describes motion sensors positioned throughout the body suit (column 13, lines 50-67), the motion sensors sending motion signals corresponding to movements of each sensor relative to a reference point (column 14, lines 30-41), the motion signals transmitted to the communications network (column 7, lines 29-32); and the humanoid robot, receiving, from the communications network the signals from the motion sensors (column 11, lines 15-60), the signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit (column 8, lines 23-30).

(Claims 3 and 15) Simmons further describes wherein the robot includes actuators corresponding to the motion sensors, the actuators causing the robot to move (figure 2).

(Claim 4) Simmons describes the robot comprising a body (column 5, 40-58); a camera coupled to the body, the camera for sending video signals to the communications network (column 7, lines 2-8, column 11, lines 51-52); and suggests sending audio information to the local site over the communications network (column 11, lines 51-52) further describing that a sound sensor means is coupled to second body (robot) to capture sound for sending audio signals to the communications network (column 4, lines 20-28 and claim 49).

### ***Claim Rejections - 35 USC § 103***

Claims 5, 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons in view of McIntosh as applied to claims 4 and X above, and further in view of Simmons US 20030030397 (Simmons '397).

Art Unit: 3661

(Claims 5, 8, and 16) Simmons describes wherein the user wears a "wrap around video display or a holographic display over his eyes" to render the video signals received from the camera (column 9, lines 5-10) and a transducer to transduce the audio signals received from the sound sensor coupled to the robot (claim 49, column 4, lines 20-28). Simmons '397 teaches that the robot would comprise microphones in the appropriate ear location to be relative to the ear position of the user (claim 19) and that the head display would comprise of goggles or glasses (claim 12). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Simmons '397 with the invention of Simmons in view of McIntosh because as Simmons '397 suggests, the microphones and the goggles are one well known means of creating the 360-degree, stereoscopic, realistic feedback of the remote location ([0016]). Simmons further describes wherein the communications network comprises an interface having one or more channels for receiving the audio signals from the sound sensors (column 7, lines 29-32); receiving the video signals from the camera (column 7, lines 2-8); sending the video signals to the head display (column 9, lines 5-10); and sending the audio signals to the sound producing means (column 4, lines 20-28).

(Claims 9 and 18) Simmons further describes wherein the body includes an eye socket and the camera is positioned in the eye socket (column 7, lines 2-8).

***Claim Rejections - 35 USC § 103***

Claims 11, 12, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons in view of McIntosh as applied to claims 1 and 13 above, and further in view of Yee, US 6,016,385.

Simmons in view of Simmons '397 describes transmitting video signals to a set of goggles but does not specify a receiver or that the data is transmitted wirelessly. However, Yee teaches a headset of a user comprises a receiver to receive video signals (column 5, lines 11-37) and wherein the robot comprises a transmitter to wirelessly send the audio, tactile, motion and video signals to the communications network (communications antenna 30). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Simmons in view of McIntosh and Simmons '397 with the teachings of Yee because it was well known that wireless means would offer the predictable result of more accessible travel of the robot and a wider range of motion.

***Claim Rejections - 35 USC § 103***

Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons in view of McIntosh and Simmons '397 as applied to claims 5 and 16 above, and further in view of Algazi, US 7,333,622.

Simmons and Simmons '397 describe wherein the sound sensor is positioned on the robot relative to the position of the sound receiver on the person and can be refined by the shape of the outer ear (column 4, lines 20-28). Algazi teaches it was well known in the art to place listening devices in a mannequin having the exact size, shape, and

Art Unit: 3661

acoustic properties of the listener located in the ear canals to replicate the sound signals accurately (column 3, lines 22-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Algazi with the invention of Simmons in view of McIntosh and Simmons '397 because Algazi describes merely one means of achieving the result described by Simmons of replicating the 360 degree, precise audio feedback to the remote user.

***Claim Rejections - 35 USC § 103***

Claims 6, 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons in view of McIntosh, Simmons '397 and Yee as applied to claims 5 and 16 above, and further in view of Abbasi, US 6,786,863.

Simmons describes a remote robot operating system and method wherein one user controls a robot that duplicates the actions of the operator and transmits the sensed condition of the robot environment to the operator, wherein the sensed environment is overlaid visually and reproduced by actuators and sensors on the operator (column 1, line 36-column 2, line 12). Simmons does not describe wherein at the location of the operator, a second humanoid robot transmits data to a first location. However, Abbasi teaches this duplication of the same system to create an interaction between remote users is known. Abbasi teaches a remote physical contact system and method wherein a first surrogate (robot) is at a first location, a second surrogate (robot) is at a second location, the second surrogate having the same components, actuators, and sensors, i.e. a second microphone and second camera (figure 1, elements 35B, 40B, and 45B); a second display to receive the video signals from a first camera, a



Art Unit: 3661

second earphone to receive audio signals from a first microphone (figure 1, elements 25 and figure 6), And a first communication gateway in the first location and a second communication gateway in the second location to create the remote interaction via a network (computer network 30 between computers 15 and 25). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Abbasi with the invention of Simmons, in view of McIntosh and Simmons '397, because as Abbasi teaches the use of remote surrogates and expands the notion by using dual surrogates for teleconferencing or computer communications, adding a capability to engage in all types of physical contact to "provide for the tactile sensation so inherent in many forms of human contact." (Column 1, lines 44-64.) Further the combination of the prior arts would produce a predictable result by merely duplicating the known systems and interchanging the physical locations, as clearly suggested by Abbasi.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 7,046,151, Dundon describes a garment to permit a user to wirelessly and remotely interact with other users over a communication network, the garment comprising oscillating motors and sensors to replicate transmitted data of tactile sensations and provide force feedback sense of touch to the individual wearing the suit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE M. BEHNCKE whose telephone number is (571)272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. M. B./  
Examiner, Art Unit 3661

/Thomas G. Black/  
Supervisory Patent Examiner, Art Unit 3661